

ANNUAL REPORT

NSD

NORWEGIAN CENTRE
FOR RESEARCH DATA

2018

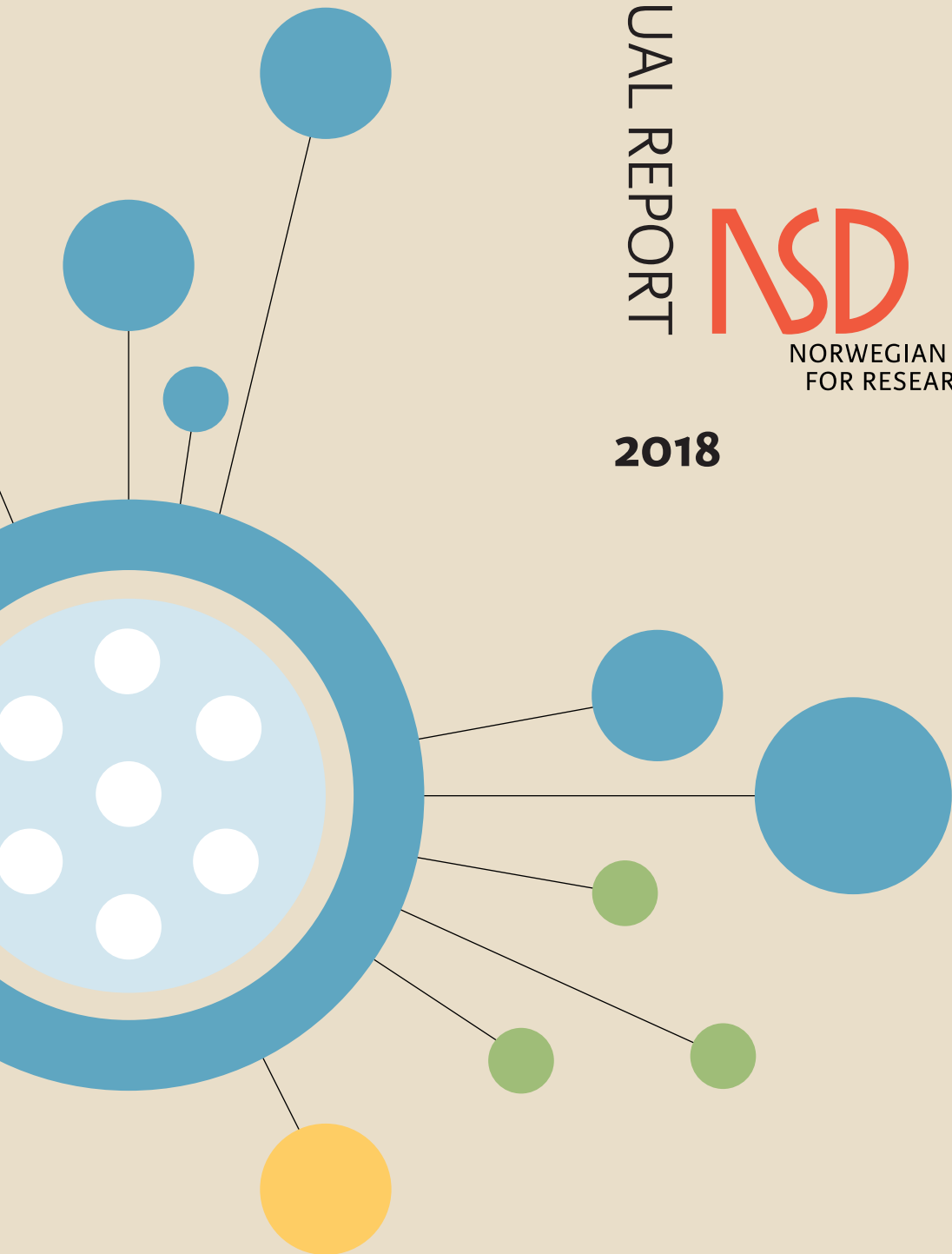


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PURPOSE AND ORGANISATION

NSD is a national archive and research data centre. Its mission is to ensure free and open access to research data, and improve the basis for empirical research through a broad range of data and support services.

Access to data is at the heart of modern research infrastructure. NSD's prime focus is that research data is a common good to be shared. The principle of open access, equitable treatment and sharing of research data has governed the centre's activities since its foundation in 1971.

NSD is a research tool that provides services that free up resources and capacity for practising research. Its goal is to ensure researchers access to data with as few legal, financial and practical barriers as possible. The centre develops solutions that lower the threshold for storing and sharing data – solutions that ensure that research data are saved for the future, and that provide efficient, secure opportunities for sharing data.

The digitalisation of NSD's services is a top priority, both as a means of ensuring better solutions for end users and rationalising our work processes, and for securing integration with other parties in the sector.

Cooperating with other service providers and actively participating in projects to develop research infrastructure, both at a national and international level, is a prerequisite for ensuring state-of-the-art solutions for the sector. NSD follows the international FAIR principles for research data: Findable, Accessible, Interoperable, Reusable.

ORGANISATION

NSD is a limited liability company owned by the Norwegian Ministry of Education and Research. It has around 100 employees working under three departments and in administrative support services. A reorganisation of the departments and the administrative support services took place in autumn 2018, with the aim of simplifying and coordinating functions. Vigdis Kvalheim took up the position of Director on 15 August 2018, following the retirement of her predecessor Bjørn Henrichsen. The position is for a period of two years.

COOPERATION

NSD cooperates with many national and international institutions to provide the best possible services to research and education communities. This enables us to contribute to the expansion and development of Nordic, European and international research infrastructure, focusing especially on the social sciences, humanities and health subjects.

ARCHIVING, CURATING AND PROVIDING ACCESS TO DATA

NSD has archived and disseminated research data for almost 50 years. It manages a valuable and growing portfolio of data collections. The collections cover everything from major international projects like the European Social Survey to data files from individual researchers and major data collections developed based on demand from the sector.

Some of NSD's major data collections

ESS European Social Survey	NOVA/OsloMet ACCESS Life Course	SSB Store utvalgs- undersøkelser	NOVA/OsloMet Ungdata	SSB Register data microdata.no
NSD's Regional Database	ISSP International Social Survey Programme	School Election and School Election Surveys	Data about the political system	TØI Den nasjonale reisevane- undersøkelsen
The Norwegian State Administration Database	DBH Statistics about Education	Kirkerådet The Church Data Base	UiB/NORCE Norwegian Citizen Panel	The Opinion Poll Archive

LONG-TERM CURATION OF RESEARCH DATA

The data collections managed by NSD vary with respect to types of data, complexity and scope. Different approaches are required to secure the data in a long-term perspective. The data archived by NSD gains added value from the rigorous and continuous curation process.

When NSD receives new data, either as part of an extensive existing data collection or as a dataset from an individual researcher, the data is subject to various checks both with respect to its technical status and whether it contains personal data. We also ensure that the data material is documented in a manner that enables the data to be reused in the future. NSD uses international metadata standards, such as DDI and Dublin Core to ensure metadata are machine-readable.

The curation of research data is a continuous process where efforts are constantly made to ensure that documentation and data are up-to-date, be it the correction of errors or access to new documentation.

An important element in curation is endeavouring to ensure that new data received by the NSD can be linked to existing data and thus increase the value of both the new data and of that already in the archive.

Curation also means organising data to make it easier for researchers to use the data material. An example here is the European Social Survey, an extensive collection of questionnaire surveys, where researchers can create new datasets based on choice of country, year and questions/variables. This has made it much easier to analyse changes over time and across countries, and has been warmly welcomed by research communities.

Norwegian State Administration surveys are another example where NSD works to make data easily available, and to enable data to be analysed over time. State administration employees have been asked about work methods, personnel and decision-making processes. The survey started in connection with the Scandinavian Power Investigation in 1976, and has been performed every tenth year since then, most recently in 2016. It thereby provides a unique opportunity to analyse change over time.

One of our main principles is that access to data shall be as open as possible, and as closed as necessary. Metadata are published for datasets with limited access, so that the data material is visible and retrievable. Data and metadata are available via APIs, and can thus be harvested and integrated with other systems.

The development of technology in projects such as RAIRD and NORDi has given us new opportunities for compiling data from complex data collections, and for being able to see different collections in context. New technology also heralds new opportunities and solutions for finding and gaining access to data from NSD.

NSD'S DATA MANAGEMENT PLAN

A data management plan is an important tool for long-term storage of data. Its purpose is to enable research data to be managed in a lawful, well-structured and secure manner, and for the data to be stored, reused and understood in the future.

Since start-up in October 2017, around 800 data management plans have been created using NSD's tool.

Uninett Sigmaz has created a similar data management planning tool, and we are cooperating with them on coordinating our solutions. We have a shared website that directs users to our respective services for data management plans and archiving.

NSD AWARDED CORE TRUST SEAL CERTIFICATION

In order to meet international and national strategies for sharing and providing access to data, research data must be stored in reliable archives that ensure that the data can be found and reused. In 2018, NSD was awarded Core Trust Seal certification. This means that NSD is certified as a reliable and credible research data archive, and meets the requirements linked to:

- Reliable operation and continuous access to archived data in a long-term perspective
- Disciplinary and ethical norms
- Sufficient funding and competence
- Information security
- Metadata for ensuring retrieval and reuse
- Workflow from receipt to dissemination of data
- Citation
- Licensing
- Technical infrastructure and software

Core Trust Seal replaces Data Seal of Approval, NSD's certification since 2014. In Norway, only NSD, the Norwegian Marine Data Centre (affiliated to the Institute of Marine Research) and Clarino (affiliated to the University of Bergen) have been awarded this status.

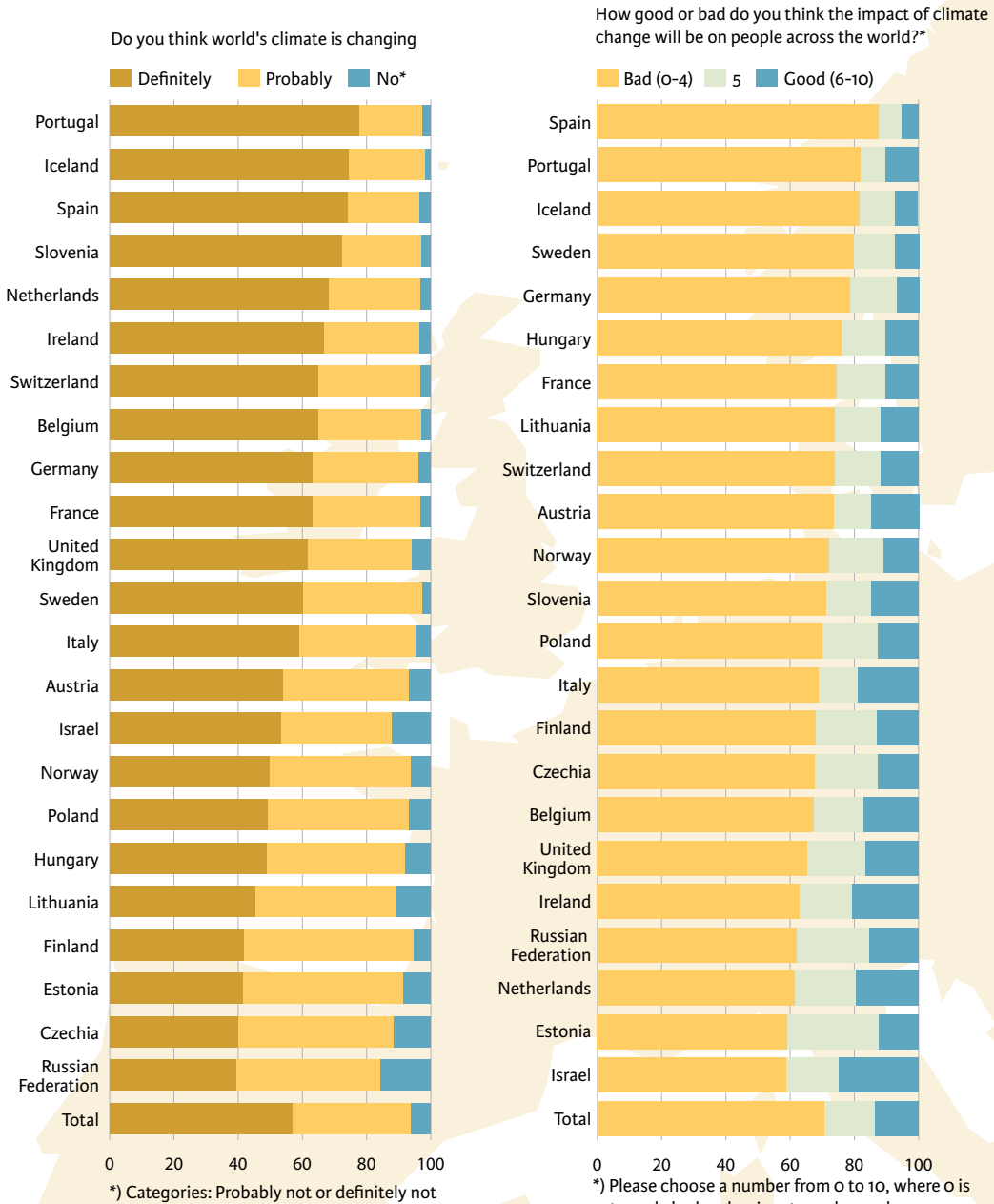
STATISTICS ON HIGHER EDUCATION AND RESEARCH

The Database for Statistics on Higher Education (DBH) is a key source of information on higher education in Norway. In 2018, it covered 51 universities and university colleges, 81 tertiary vocational colleges and 14 student associations. The administrative institutions in the sector also report financial data to the database.

Data and data services from DBH form the basis for a wide range of steering data and research data for policy formation in the sector and statistics that can be adapted for many needs. DBH contains data and statistics on students, education, research, personnel, libraries, museums, premises, finances and company data. The data are openly available for planning in the sector, both for planning by the central ministries and locally by the individual institutions. The year 2018 has been marked by work in connection with adaption to the General Data Protec-

European Social Survey 2016

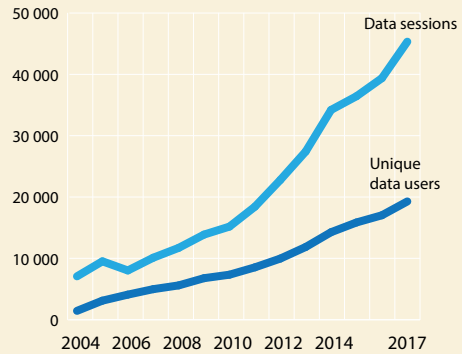
Climate Change



ESS User Statistics

Registered Users

135 000



In 2018:

45 000

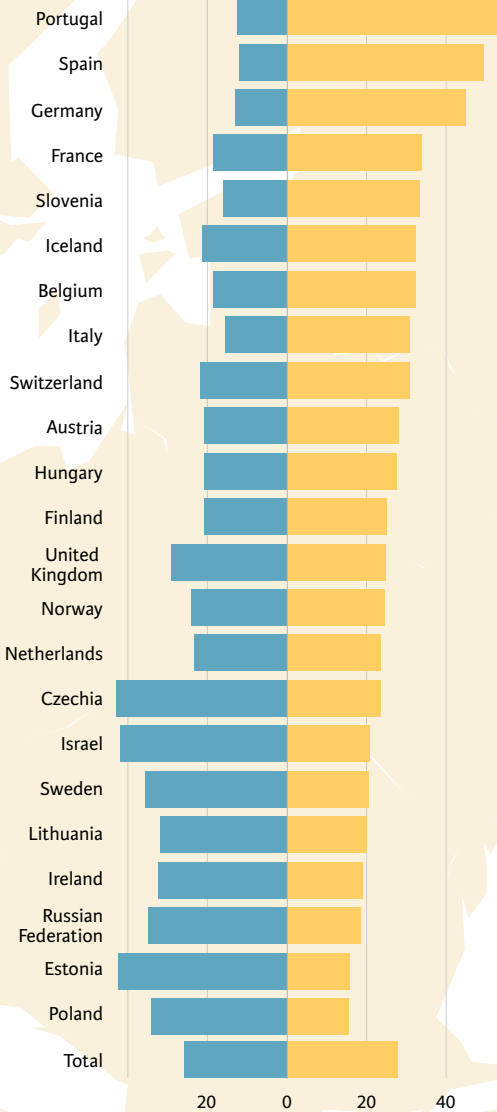
data downloads by

19 100

unique data users

How worried are you about climate change?

Not worried* Worried**



*) Not at all worried + Not very worried

**) Extremely worried + Very worried

www.europeansocialsurvey.org

tion Regulation (GDPR) and the new Personal Data Act, as well as new data processing provisions in the Act relating to Universities and University Colleges and the Tertiary Vocational Education Act of 1 July 2018.

The reporting and collection of data from higher education institutions in Norway to DBH present great synergy potential as the database covers the data needs of, among others, Statistics Norway, the Norwegian Agency for Quality Assurance in Education (NOKUT), the Nordic Institute for Studies in Innovation, Research and Education (NIFU), the Norwegian State Educational Loan Fund, the Norwegian Armed Forces and the Norwegian Directorate of Health. Specially adapted statistics and web services have been developed for NOKUT and the Ministry of Education and Research, among others.

As part of NSD's digitalisation programme, we launched an API solution in autumn 2018 that replaces manual procedures and facilitates better data flow between DBH and the education and administrative agencies' databases. NSD Dimp, which is the data import system for DBH, has also implemented API solutions to retrieve raw data from the institutions.

SCIENTIFIC PUBLICATION REGISTERS AND WEB SERVICES FROM NSD

In connection with the debate concerning Plan S, NSD's scientific publication registers have been highlighted as important quality assurance whitelists in the transition to open publishing.

NSD runs and manages two registers linked to scientific publication, the register of publication channels and ERIH PLUS. Inclusion in the registers is a stamp of quality for any research publication. We have also developed a Nordic register of publication channels and a National Publication Indicator (NPI) which provide an overview of the quality of publication channels.

REGISTER OF PUBLICATION CHANNELS

The register of publication channels contains more than 36,000 research journals, book series and publishers from different parts of the world. The register awards publication channels scientific status pursuant to formal criteria set out by NSD. Publication in a scientific channel in Norway brings financial reward to the institution the researcher is affiliated to.

ERIH PLUS

ERIH PLUS contains more than 12,000 journals in the humanities and social sciences, which are significant to European research. ERIH PLUS i.e. the European Reference Index for the Humanities (ERIH) and Social Sciences (PLUS) is a scientific authorisation list, originally established by the European Science Foundation (ESF). NSD has run the register since July 2014 and it was legally transferred to NSD in December 2015.

NORDIC REGISTER OF PUBLICATION CHANNELS

The Nordic register of publication channels is based on case officers exchanging information on publication channels via a joint Nordic register in a cloud solution. This is possible because the treatment of publication channels is based on the Norwegian model and is practically identical in all of the Nordic countries. It is also possible for Nordic countries that have not established such a register to use the list.

NATIONAL PUBLICATION INDICATOR (NPI)

NPI is a web service developed for work on publication channels in Norway, and it is used by academic committees. Its goal is to make the process of ranking scientific publications easier, more open and efficient, with an academic basis. NSD runs the website on assignment for Universities Norway (UHR).

DATA PROTECTION SERVICES

NSD is a national centre of expertise in data protection and research, and it has one of the biggest expert communities in personal data protection in research in Europe. Our objective is to ensure that research is conducted in line with ethical standards and legal data protection requirements.

Prior to the introduction of the new General Data Protection Regulation in July 2018, the NSD filled the role of Data Protection Official for research for many research and education institutions, including all the universities, specialised university colleges and state university colleges, private university colleges as well as a number of health trusts and hospitals, and multiple independent research institutes. In 2018, NSD delivered data protection services to 132 institutions and entered into an agreement with the European Social Survey on being their data protection official.

Following the introduction of the new data protection regulations, NSD still delivers data protection services to the sector, but now pursuant

to two different models; an agreement on personal advisory services for research or an agreement on being the data protection official for the entire organisation (generally only for national research institutes). In 2018, NSD has worked on preparing agreements for the different models.

All research projects that aim to process personal data must be registered by NSD, which assesses each project pursuant to the data protection regulations. We also ensure follow-up throughout the project for revised agreements. This work provides excellent knowledge on all aspects of data protection in a research context.

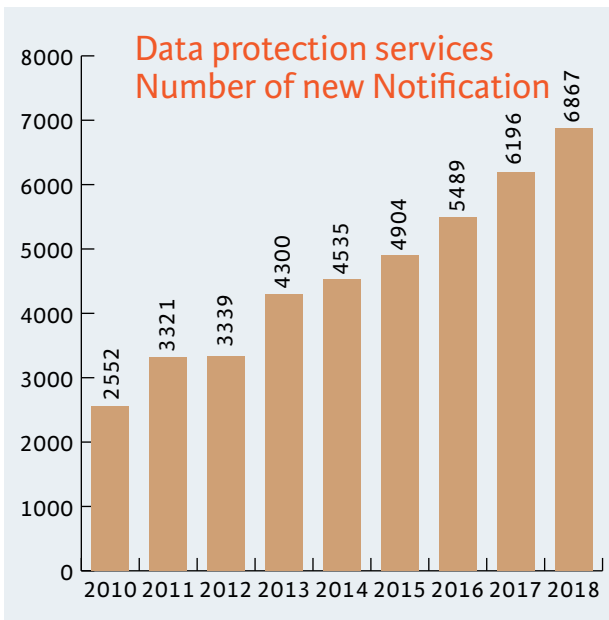
In addition to advising students/researchers and assessing research projects, we assist the institution's management and research administration by providing guidance on internal control.

GDPR MEETINGS WITH THE INSTITUTIONS

In spring 2018, NSD invited the management of all the institutions with whom we have an agreement to attend a meeting on the topic of GDPR. NSD held a total of 12 such meetings with 97 institutions. The objective of the meetings was in part for NSD to provide information about the new regulations and our data protection services going forward, and in part for the institutions to share their experience of data protection work and to provide input to NSD.

NEW SYSTEMS

NSD has made it a priority to renew all IT solutions linked to the data protection services we deliver to the sector and has delivered new tools for researchers, NSD's staff and the institutions. This is discussed in the article 'Digitalisation of data protection services'.



Through the projects NORDi and RAIRD and in connection with the digitalisation of our data protection services, we have in 2018 launched several services that have been under development for some time. Microdata.no is the results of five years of work on the RAIRD project. The NSD API* is a cornerstone in the development of NSD's services through the NORDi project. The digitalisation of our data protection services was a priority in 2018 following the introduction of the new data protection legislation.

* API (Application Programming Interface) is an interface for communication between systems, which enables different applications and machines to communicate.

NSD's digitalisation programme

MICRODATA.NO – EASY ACCESS TO REGISTER DATA

In May 2018, it became easier for researchers to gain access to Statistics Norway's register data when the service microdata.no was launched following five years of innovative development work. NSD and Statistics Norway developed the service through the RAIRD (Remote Access Infrastructure for Register Data) project, funded by the Research Council of Norway. The service microdata.no is jointly run by Statistics Norway and NSD.

THE PROBLEM TO BE SOLVED

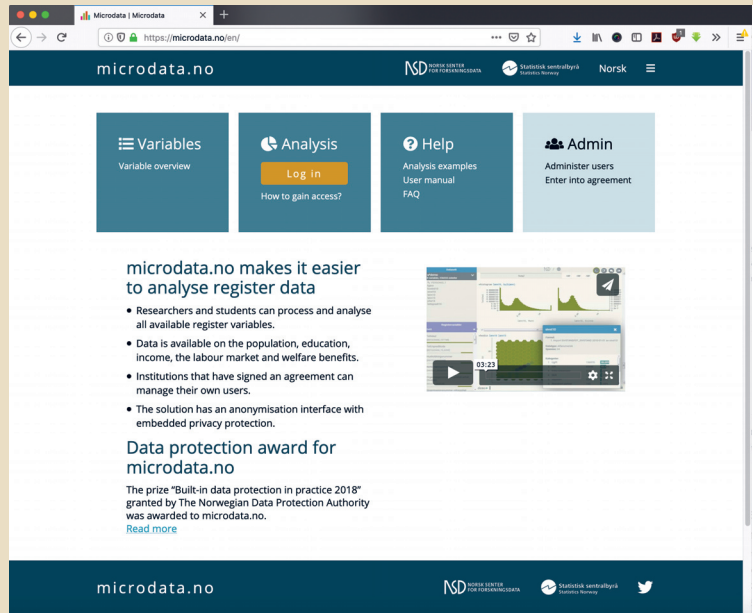
The process of gaining access to register data has been time-consuming, expensive and bureaucratic for research communities, and has involved applications, approvals and manual facilitation work prior to gaining access to data. Researchers have also had direct access to detailed personal data – which in itself constitutes a risk.

The challenge the RAIRD project had to address was how a researcher could gain access to register data immediately and without application, and how the risk of personal data falling into the wrong hands could be minimised. After five years of development, the solution was ready for publication in May 2018.

A UNIQUE CONCEPT OF PRIVACY BY DESIGN

The following make RAIRD/microdata.no unique in a global context:

Users can conduct research on fully detailed micro data/personal data without having to process the personal data themselves in the process



This is key to being able to provide immediate access, and granting researchers access to analyse the whole range of register variables.

In order to implement the concept, the researchers' statistical programs and analyses must be run in a controlled environment that ensures anonymised output from the system.

This type of environment is crucial if we are ensure results and output are anonymous and thus be able to vouch for the fact that the researcher will not process personal data. Controlled execution cannot be achieved with the standard statistics software researchers have used to this point.

Researchers who are going to link register data to their own data or data from other official registers, must continue to apply for access and permits as before.

NSD'S ROLE

The RAIRD project was a joint project in which NSD and Statistics Norway were equal partners, where the objective of the cooperation was to draw on each other's comparative advantages – research data dissemination and register data expertise, respectively.

NSD's long-standing focus on building a large community of developers with a high level of expertise in technology as well as research data and metadata was vital to RAIRD and microdata.no becoming a reality.

The project became a synthesis of Nesstar, state-of-the-art technology, experience of disclosing data from the FD-Trygd database (Data from the National Insurance System, the Social Welfare, and the Labour Market), long experience of working on metadata standardisation and experience delivering of production-ready software solutions for the sector.

MICRODATA 2.0 – FURTHER DEVELOPMENT

In October 2018, Statistics Norway and NSD submitted a new application to the Research Council of Norway's call for proposals for infrastructure projects for funding further development along the following dimensions:

- Incorporating more micro data from Statistics Norway into the solution
- Incorporating micro data from NSD (DBH, individual level data) into the solution
- Incorporating micro data from the Cancer Registry of Norway into the solution (as a pilot for microdata.no as a dissemination platform also for third-party data)
- Internationalisation (translated metadata, international login)
- Digitalised interaction between microdata.no and traditional dissemination
- Solution enabling researchers to upload their own data for linkage to register data
- Development of methods and visualisations

The above represents advancements that are difficult to achieve through ordinary operation. Statistics Norway and NSD regard the application as a natural step towards a larger international collaboration, where we also intend to internationalise data. Cooperating with Nordic statistics agencies is highlighted as one possibility. Since this is an international project, it will be natural to apply for international funding (from NorForsk or the EU). In this instance, it was natural to apply for national funding from the Research Council's call for proposals for infrastructure projects.

THE NUMBER OF USERS IS GROWING RAPIDLY.

The number of users is growing rapidly. At the turn of the year, 169 researchers and 26 students, from 25 institutions that had entered into

agreements, were using microdata.no. This means that 195 users can research register data rather than spending time on applying and waiting for access to data. They carried out 1,100 user sessions in 2018.

ATTRACTED NATIONAL AND INTERNATIONAL INTEREST

Following its official launch, there was a great demand for demonstrations of microdata.no in Norwegian research communities. Eighteen meetings were held with a total of 354 participants before the New Year.

Microdata.no was highlighted by a number of official bodies. At the seminar 'Data protection and ethics' (Oslo, 8 June 2018), State Secretary Rebekka Borsch referred to microdata.no as 'a platform that can lead to more research on register data and more sharing of data and results, which the Ministry of Education and Research strongly advocates.'

The service won the Data Protection Authority award 'Innebygd personvern i praksis 2018' (Built-in data protection in practice 2018). In the rationale for their decision, the jury highlighted that 'through the research infrastructure microdata.no, NSD and Statistics Norway have developed new technology that eliminates the personal data protection hazard in microdata research, whilst simultaneously providing researchers with faster and far more affordable access to these data. Norway is the first country to establish such an infrastructure. It has great significance and a wide area of impact, and the potential to be extended to new areas.'

The register and dissemination communities – the Norwegian Patient Register/the Municipal Patient and User Registry under the Norwegian Directorate of Health, the Norwegian Labour and Welfare Administration (NAV) and the Brønnøysund Register Centre wish to look at how they can use the RAIRD technology in their work. Information meetings have been held with the Directorate of Health and NAV. The health data programme is currently examining the opportunities for using the technology and service in the Health Analysis Platform.

Microdata.no has also attracted a lot of interest from abroad. Following a presentation at the Eurostat Conference CESS 2018, NSD and Statistics Norway were invited to attend its biennial technology development conference NTTS 2019 and to INEXDA. INEXDA is a large international collaboration project on metadata and accessibility to micro data initiated by the central banks in the G20 countries, with Deutsche Bundesbank as head of project.

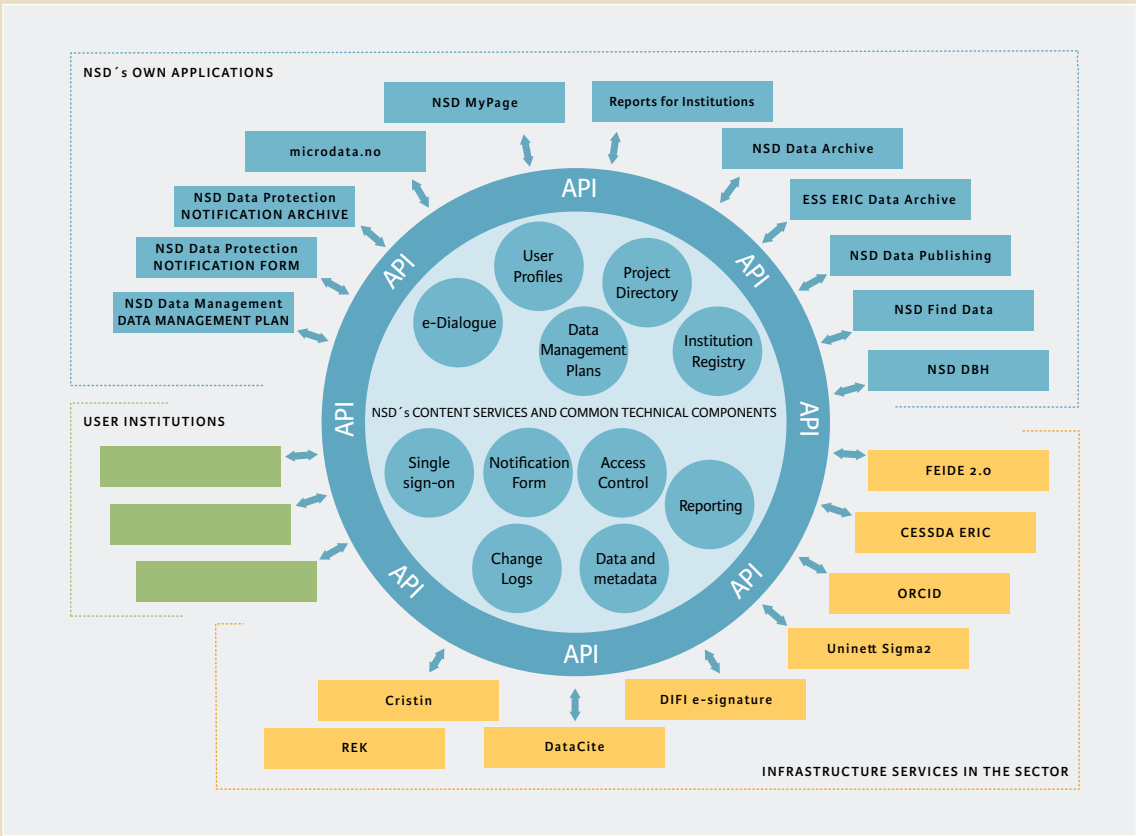


THE NSD API ENABLES INTEGRATION WITH THE SECTOR

For almost 50 years, NSD has archived and made research data available for research communities. Through the NORDi project, NSD received funding from the Research Council to renew the infrastructure linked to archiving and dissemination of research data, and to ensure researchers and research support personnel in the institutions closer access to NSD's expertise. Several of the building blocks of the new infrastructure fell into place in 2018.

INTEROPERABILITY

The API development is a key to NSD's integration with the sector, to reducing duplicate registrations and to supporting the increasing value of research data. Different services and systems have to be able to communicate with each other.



This means that:

1. NSD systems must communicate with each other
2. NSD systems must be able to communicate with external systems (via APIs)
3. External systems must be able to communicate with NSD (via APIs)

We have solved problems 1) and 3) by means of a large, comprehensive NSD API. All of our services use this API – and the same API is offered to external parties. This ensures that the API is robust, complete, operative and documented at all times.

Problem 2) has been solved by ensuring that our applications are designed to communicate easily with external systems, and to be changed/expanded easily in the event of external changes. Major and continuous changes are expected to occur as the sector becomes more digitalised at a national and international level.

EXAMPLE ON API

NSD's API rests on a common model of objects, relations and actors.

Examples of these are:

- Researcher
- Dataset
- Data management plan
- Notification form
- Project
- Institution (data controller, responsible for the research, responsible for funding)
- Notification dialogue and notification
- Citations

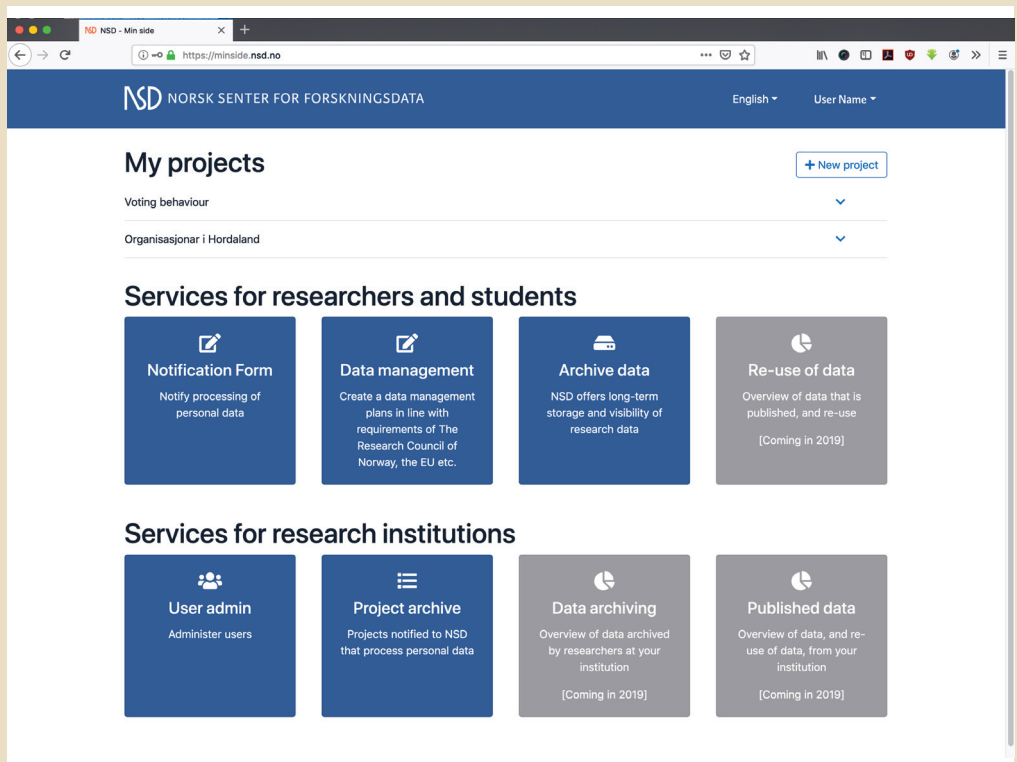
The API is filled with content from a number of new and old databases and services. Access to all this is managed in line with both NSD's and the external institutions' authorisation hierarchies.

RAPID CHANGE REQUIRES TECHNOLOGICAL CAPACITY

The API must evolve, but without breaching its 'contract' with existing users. External APIs also develop and new APIs and machine-readable services that we should integrate with are popping up rapidly. In sum, this means that further development and maintenance of APIs is demanding. NSD has therefore focused on developing API design and implementation capacity among its staff.

NSD believes that all organisations that wish to contribute to adding value in an increasingly digitalised sector will have to expose their data and services via APIs, and also master integration with a large number of external APIs. Two important factors have to be acknowledged in this context:

- Digitalised organisations must have sufficient technological capacity to stay relevant
- Digitalisation and APIs must interact and evolve with the organisation and its organisational structure



My Page

MyPage (minside.nsd.no) has been developed by the NORDi project, and it is the gateway to all NSD's services and data collections. MyPage contains an overview of own projects and information given to NSD in connection with these projects. Institutions' administrations will similarly see an overview of activities linked to the institution.

Based on a given project, it will be possible to find or create:

- Notification form for personal data
- Data management plan(s)
- Data archives
- Data orders (and deliveries)
- Data publications

Through MyPage, NSD thus provides a solution for a lifecycle perspective on research data.

NSD DATA MANAGEMENT PLAN – AVOIDS DUPLICATE REGISTRATION(S)

NSD's data management plan is an example of how researchers can avoid registering information twice. The service is integrated with our data protection and archiving services, but it also communicates with other systems in the sector via APIs.

When a researcher is going to create a new data management plan, she can obtain project information from Cristin (Current research information system in Norway). The researcher thus avoids having to re-enter the information, and we ensure that the project is consistent in different systems.

REPORTS TO THE INSTITUTIONS

NSD's reporting and overview solutions provide the institutions with a continuous full overview of data processed by NSD's data protection service. In 2018, efforts have been made to develop corresponding overviews of data management plans, archiving and reuse of data.

The reports are accessible via the institutions' web pages, or as machine-readable reports that can be integrated in the institutions' own systems via API.

NSD's digitalisation programme

DIGITALISED DATA PROTECTION SERVICES

In 2018, the notification form for student and research projects that plan to process personal data were incorporated into the new MyPage solution. Students and researchers, who have to register such projects with NSD, now use a fully digitalised and dynamic form. This means that the form actively responds to the choices made by the researcher and retrieves new questions, or not, based on what is relevant to the project.

The screenshot shows a web browser window with the URL <https://meldeskjema.nsd.no/5cfa5620-2970-41ed-b2aa-5d8b6798967>. The page header includes the NSD logo and the text "MELDESKJEMA FOR BEHANDLING AV PERSONOPPLYSNINGER". The user is logged in as "User Name" in English. The main navigation bar contains "Messages", "Export", and "Assessment" buttons. A status bar indicates "All changes have been saved" and "Reference: 926786".

The left sidebar lists various sections: "Personal data" (selected), "Type of data" (highlighted in blue), "Project information", "Data controller", "Samples and details" (with an "Add sample" button), "Third Persons", "Documentation", "Approvals", "Processing", "Information security", "Duration of processing", "Additional information", and "Send in".

The main content area is titled "Type of data" and contains the following text: "You have indicated that you will be processing background data that can identify individual persons, describe which". Below this is a large text input field.

The next section is titled "Will you be processing special categories of personal data or personal data relating to criminal convictions and offences?". It includes four questions, each with "Yes" and "No" radio buttons:

- Racial or ethnic origin
- Political opinions
- Religious beliefs
- Philosophical beliefs

A blue chat button in the bottom right corner says "Chat with us on weekdays from 12-14".

The dialogue between researchers and NSD's experts has been improved with a notification system that replaces contact via email and phone. The chat function means the users can get answers to their questions immediately.

The backend systems used by the advisors in data protection services has been incorporated into the solution, and is also used in the dialogue with the users. It is thus easy for researchers, the institution and NSD to retrieve relevant correspondence linked to a project. In the previous version of the notification archive, the institution could retrieve an over-

view of all the projects registered in NSD. The new version also enables users to retrieve a record of all active projects at the institution that process personal data, which meet the requirements of Article 30 of the new General Data Protection Regulation. The system thus provides a good internal control tool for the institutions.

The system will continue to be improved and developed. At the end of 2018, NSD introduced machine scoring of projects with low risk to personal privacy. Projects that receive this type of score are filtered out and are quickly followed up by advisors at NSD, who check whether this is the case. This means that projects with low risk do not have to queue together with more complex projects and can be assessed more quickly.

DEVELOPED WITH API

An important element of the system is that it has been developed with API, which means that it is easier to integrate NSD's solutions with those of the institution. This enables the institutions to adapt the user interface to their institution, by retrieving the data relevant for them. The notification archive, for example, only provides an overview of projects that process personal data. However, by using API, the institutions can combine these into a total overview of the projects at their institution.

NEW PROCEDURES INTRODUCED

In 2018, 6,867 new projects were registered with NSD based on NSD's notification form. New systems were published at the same time as the EU's General Data Protection Regulation entered into force in Norway. Overall, this has led to new practices, more registered projects and a high level of activity. The year 2018 was the start of a process that we are still gathering experience from. While new procedures are being adapted and the machine scoring system continues to improve, there is good reason to believe that the system will generate efficiency gains in the form of shorter assessment times and better control of research projects that process personal data.

TRAINING, COURSES AND GUIDANCE

General training and courses in data protection and data management are in great demand. In 2018, we held 53 courses or lectures for institutions in the sector.

We have held an introductory course where we have taught researchers and research support personnel about NSD's role and services linked to data protection and data management. We have provided training in data management, use of data management plans, archiving, guidance in relation to the data protection regulations including GDPR and the consequences for the research sector.

Overarching topics relating to data management:

- Archiving of data – where, why and how
- The data management process
- Using a data management plan
- Requirements for the data management plan

Overarching topics linked to data protection:

- What is personal data?
- What is sensitive personal data?
- Information security
- Internal control
- Division of roles in data protection work at the institutions
- GDPR and the consequences for students and researchers

We also receive requests for advice in connection with data protection and internal control, data management in large research projects, and in connection with the establishment of health registers.

PROJECTS

SSHOC – SOCIAL SCIENCES AND HUMANITIES IN THE EUROPEAN OPEN SCIENCE CLOUD (EOSC)

With CESSDA as head of project and coordinator, the five ESFRI infrastructures in social sciences and the humanities (CESSDA, CLARIN, DARIAH, ESS and SHARE), in collaboration with 14 other partners and 26 linked third parties submitted an application to the Horizon 2020 framework programme in March 2018. The project was entitled ‘Social Sciences & Humanities Open Cloud (SSHOC)’ and the application was granted in September 2018.

THE SSHOC PROJECT will link new and existing infrastructure for social sciences and the humanities together in a joint cloud solution. The project is part of a bigger objective to establish a European Open Science Cloud – EOSC.

As one of 47 organisations with expertise in different parts of the research process, NSD shall mainly contribute by:

- Helping to develop a storage service on the SSHOC platform that can be used by research institutions and data archives that do not have the funding to develop complete, integrated solutions like NSD and other national research infrastructures. NSD provides programming expertise.
- Using data from European Social Survey in a pilot to demonstrate how data and metadata from an international repeated survey can be facilitated for the open cloud service, and meet the FAIR principles for research data (Findable, Accessible, Interoperable, and Reusable).
- Preparing a common standard for practising data protection legislation, a European GDPR Code of Conduct for social sciences and the humanities.
- Developing new training tools for data management and data protection.

The key words for SSHOC are availability and reuse. The open and cloud-based infrastructure shall make data material, tools and e-learning easily accessible to students and researchers. The project is scheduled to start in February 2019 and finish in April 2022.

ACCESS LIFECOURSE

The project is led by NOVA (Norwegian Social Research) at OsloMet and funded by the Research Council of Norway. Its intention is to extend and update the ACCESS Lifecourse database from 2002 to 2007. The objective of the project is to give researchers and students access to up-to-date lifecourse data for more than 6,000 persons in Norway. NSD is the data archive for the project and makes data available for research through NSD's publication platform. In 2018, NSD has contributed to the planning of new infrastructure for providing access to data.

NORDI

Norwegian Open Research Data Infrastructure (NORDi) is a five-year (2016–2021) project in which NSD is developing new e-infrastructure for research data, including user-friendly tools for the storage, administration and provision of access to research data. The project and work carried out in the past years are discussed in the article: 'The NSD API enables integration with the sector'.

RAIRD

Through the register data project RAIRD, NSD and Statistics Norway have cooperated on developing new solutions, models and techniques to make it easy (and natural) for researchers to work with the time components of their data. The project resulted in a brand new self-service solution for the secure use of register data, which was launched in May 2018. The project is discussed in the article 'microdata.no – easy access to register data'.

eVIR

NSD is a project partner in eVIR (e-infrastructure for Video Research), led by the University of Oslo. The goal is to develop a national infrastructure for research that uses video data and develops flexible and secure solutions that address data protection. The project shall facilitate storage that ensures availability and access across institutions. NSD is the data archive for the project and provides expertise on the organisation of metadata and structuring of data for reuse and data protection. eVIR is funded by the Research Council of Norway.

SERISS

SERISS (Synergies for Europe's Research Infrastructures in the Social Sciences) is an extensive four-year European research project that aims to break down barriers to exchanging research data and to develop new forms of data collection in social research. The project is part of the EU's programme for research and innovation, Horizon 2020. Among other things, NSD manages a work package looking into the legal and ethical challenges faced by comparative social research, with particular focus on survey data and the use of new types of data.

In 2018, NSD has completed two tools for the development and administration of metadata in questionnaire-based surveys, the Questionnaire Design and Development Tool (QDDT) and the Question and Variable Data Base (QVDB). Both tools support the FAIR principles as they are based on DDI, a machine-readable, international standard for metadata.

CESSDA MMP AND CESSDA METADATA OFFICE

CESSDA MMP (CESSDA Metadata Management Plan) is funded by CESSDA and has focused on the development of a joint model for documenting metadata for research in the social sciences. NSD's role has mainly been to draw up a user guide to the metadata model. The goal is for all European social science research data archives to use this model.

The model was completed in 2018, and a follow-up project has now started to ensure the model is developed, updated and implemented in line with the applicable standards – CESSDA Metadata Office Project. In the project, NSD shall update and further develop the user guide for the metadata model. NSD is also involved in the part of the project that is updating the European Language Social Science Thesaurus (ELSST), which is a multilingual thesaurus for the social sciences.

NATIONAL COLLABORATION

STATISTICS NORWAY AND NSD have conducted a formal collaboration since 1975 on the processing and distribution of data from Statistics Norway to Norwegian research communities. This has significantly improved working conditions for Norwegian researchers compared with their colleagues abroad. In 2018, NSD and Statistics Norway collaborated on developing a service that provides quick and easy access to register data, entitled microdata.no.

THE NORWEGIAN DATA PROTECTION AUTHORITY and NSD have worked together since 1981 to protect privacy in ways that, as far as possible, do not preclude projects from being carried out.

THE NATIONAL ARCHIVES OF NORWAY and NSD have cooperated informally for many years, and the collaboration was formalised in 2014 in the form of an agreement that sees NSD archive publicly funded research data on behalf of the National Archives, and facilitates access to and reuse of data.

THE RESEARCH COUNCIL OF NORWAY (NFR) has played an important role since the beginning in terms of the scope and quality of NSD's services thanks to its basic allocations of funding and project allocations and by assigning key infrastructure projects to NSD. NSD is responsible for archiving data from projects funded by the Research Council of Norway.

THE MINISTRY OF EDUCATION AND RESEARCH awards grants to NSD's Database for Statistics on Higher Education (DBH), which supplies services and a data basis to the Ministry and higher education institutions.

UNIVERSITIES NORWAY (UHR) and NSD cooperates closely with UHR on the development and operation of the register of publication channels and the National Publication Indicator (NPI). In 2018, UHR and NSD have devised a template agreement for data protection services in research along with the Association of Norwegian Research Institutes (FFA). UHR and NSD have also collaborated on alternative funding models for data protection services.

INTERNATIONAL COOPERATION

CESSDA (CONSORTIUM OF EUROPEAN SOCIAL SCIENCE DATA ARCHIVES) ERIC is the pan-European research infrastructure for the social sciences. NSD is the Norwegian service provider, and participates in a number of large EU projects through CESSDA ERIC.

ESS (EUROPEAN SOCIAL SURVEY) ERIC has conducted a major European questionnaire survey since 2002. NSD is responsible for storing, processing and distributing data and documentation in ESS and runs the official website, which has around 135,000 registered users.

ICPSR (INTER-UNIVERSITY CONSORTIUM FOR POLITICAL AND SOCIAL RESEARCH) is an international consortium of which NSD and more than 780 academic institutions and research organisations are members. The ICPSR is the world's largest data archive for the social sciences and is based at the University of Michigan.

IFDO (INTERNATIONAL FEDERATION OF DATA ORGANISATIONS FOR THE SOCIAL SCIENCES) works to facilitate research through cooperation across countries, regions and continents. NSD is a member.

CLARIN (COMMON LANGUAGE RESOURCES AND TECHNOLOGY INFRASTRUCTURE)

In 2018, NSD was awarded CLARIN Knowledge Center status, providing expertise in data management and data protection. CLARIN is a European research infrastructure tasked with making digital language resources available for research and education, especially in the humanities and social sciences.

ISSP (INTERNATIONAL SOCIAL SURVEY PROGRAMME)

ISSP enables researchers to study Norway in a global perspective. Today, 45 countries are members of ISSP. The first survey was conducted in 1985, and NSD became a member in 1989. NSD is responsible for conducting the survey in Norway.

NSD'S BOARD OF DIRECTORS

Chair

- Petter Aasen, rector of the University College of Southeast Norway

Members

- Elin Haugsgjerd Allern, professor at the University of Oslo
- Ove Andersen, special advisor at NSD, employee representative
- Torstein Bye, director at Statistics Norway
- Kjell Gunnar Salvanes, professor at the Norwegian School of Economics
- Gry-Hege Henriksen, special advisor at NSD, employee representative
- Eva Stensland, associate professor at the Arctic University of Norway

Deputy member

- Toril Aalberg, professor at the Norwegian University of Science and Technology

COMMITTEES APPOINTED BY NSD

Reference group for the Database for Statistics on Higher Education

- Tore Tungodden, University of Bergen, chair
- Beth Linde, Østfold University College, member
- Ingrid Sogner, University of Oslo, member Ellen Rye, University College of Southeast Norway, member
- Adeline Berntsen Landro, Hordaland County Authority, National Council for Tertiary Vocational Education, member
- Trond Bergene, National Council for Tertiary Vocational Education, personal deputy for Adeline Berntsen Landro
- Andreas Slettebak Wangen, Norwegian University of Science and Technology, member
- Joar Nybo, Ministry of Education and Research, observer
- Magnus Strand Hauge, Norwegian Agency for Quality Assurance in Education (NOKUT), observer
- Anne Marie Rustad Holseter, Statistics Norway, observer
- Stig Slipersæter, Research Council of Norway, observer
- Vidar Røeggen, Universities Norway, observer

ADVISORY GROUP FOR ERIH PLUS

- Alain Peyraube, Director of Centre National de la Recherche Scientifique (CNRS), France
- Gunnar Sivertsen, Nordic Institute for Studies in Innovation, Research and Education (NIFU)
- Nina Kancewicz-Hoffman, consultant, European Science Foundation (ESF)
- Stefan Hornbostel, German Centre for Higher Education Research and Science Studies (DZHW)
- Cláudia S. Sarrico, Lisbon School of Economics and Management (ISEG) – left the committee during 2018.
- Gabi Lombardo, Director of the European Alliance for Social Sciences and Humanities (EASSH) – new member in 2018.

RAIRD PROJECT BOARD

- Vigdis Namtvedt Kvalheim, NSD, chair
- Torstein Bye, Statics Norway
- Elisabetta Vassenden, Statics Norway
- Lars Hatlehol, Statics Norway (from June)
- Knut Kalgraff Skjåk, NSD

DIRECTORS' REPORT FOR 2018

NSD – The Norwegian Centre for Research Data was established as an international infrastructure organisation for research in 1971, and has been organised as a limited liability company under the Ministry of Education and Research since 2003. NSD's object is to provide data management and services for the research sector. In cooperation with national and international institutions, the company shall engage in development work related to its object. The company is based in Bergen.

ACTIVITIES, COOPERATION AND DISSEMINATION

As in previous years, the basis for NSD's activities in 2018 has been its national responsibility for providing central data and infrastructure services for Norwegian research. Its primary mandate is to provide access to data, through a broad range of products and services that reduce the distance between researchers and data, thus enabling them to conduct research in a proper, efficient and high-quality manner. The research sector is the target group for all of NSD's services. In line with the Government's expectations of digitalisation and accessibility to research data, and the research sector's needs, NSD has worked on renewing and digitalising its services in 2018. This has led, among other things, to the launch of a range of new fully-digital solutions that cover NSD's own services, and also include services that enable information to be exchanged using digital solutions outside NSD.

NSD provides services and is involved throughout the research process, from clarifying data protection issues, collecting research data, planning data management in projects, facilitating and providing access to research data, archiving data on project completion, developing tools and software to providing information about publication channels and producing official statistics about the sector. A number of the data and support services provided by NSD are also used by the education sector and the public administration.

Communication with the research communities is a precondition for demonstrating, highlighting and promoting NSD's social mission and the tasks it performs on behalf of the sector. NSD notes that there is a demanding need for training. It has therefore started using new learning platforms and a chat function to rationalise and simplify contact with users, and providing data management and data protection training through courses and seminars. In 2018, NSD has further developed its

training and guidance activities, invested in digital learning platforms and cooperated at a national and international level on content and training. This includes the establishment of a new comprehensive package of training modules covering important parts of the research process.

NSD is engaged in extensive national collaboration and has agreements with institutions and organisations. Much of NSD's comprehensive activities are made possible by its close cooperation with, among others, Statistics Norway, the Norwegian Data Protection Authority, the National Archives of Norway, the Research Council of Norway, the Ministry of Education and Research and the research communities, both at institution and researcher level. This year, NSD has started cooperating with the new directorate Unit – the Norwegian Directorate for ICT and Joint Services in Higher Education and Research, where NSD participates in the expert committees on research and information security. This cooperation and its agreements with Unit are vital to NSD being able to carry out the tasks it is mandated to perform. This also applies to NSD's important role in a range of major national and European projects, funded by, among others, the Research Council of Norway and the EU, which contribute to building joint services that secure researchers and students access to relevant quality data and pertaining support services.

FUNDING

NSD's turnover has increased marginally from 2017 (NOK 72,386,933) to 2018 (NOK 72,969,024). Work corresponding to 92 full-time equivalents was performed in 2018, including part-time student employees. This corresponds to two more full-time equivalents than in 2017.

For the most part, NSD is funded through funding contributions and commissioned research carried out for official bodies, the higher education sector and for research communities in Norway and Europe. Income comes from the Research Council of Norway, the ministries, the higher education sector and the EU. The Research Council of Norway funded 10.7% of the activities through its basic allocation, and 21.3% of the total allocation if we include project grants. The sources of funding in 2018 break down as follows (2017 figures in brackets): 21.3% (24.5%) from the Research Council of Norway, 29.1% (23.8%) from the Ministry, 32.3% (29.8%) from other public and private sources, 10.6% (17.1%) from EU projects and other international projects, and 7.8% (4.8%) from sales and commissions.

THE WORKING ENVIRONMENT AND THE NATURAL ENVIRONMENT

NSD's employees work in an office environment with computers as their most important work tool. Short-term sickness absence was 2.6% in 2018, and long-term sickness absence was 4.5%. These figures have increased since 2017, when the corresponding figures were 2.2% and 1.6%, respectively. No injuries or accidents were registered. The company aims to reduce its impact on the environment by employing a policy of limiting travel and using video conferences as often as possible.

STAFF BY AGE AND GENDER

NSD endeavours to achieve an even gender distribution. In 2018, there was a higher proportion of women (54%) among the staff. The NSD management team comprised six women and five men at 31 December 2018. NSD emphasises diversity and encourages qualified candidates to apply for jobs with us, regardless of age and cultural and ethnic background.

ANNUAL ACCOUNTS AND ALLOCATION OF PROFIT

The Board is very pleased with the centre's results in 2018. The company's financial performance was positive in 2018, and its prospects are good. The board confirms that the requirements of the going concern assumption are satisfied. The Board strives to ensure that the company has adequate equity and therefore proposes that NSD's profit for 2018 of NOK 202,922 be allocated to other equity. As stipulated in the Articles of Association, no dividend is distributed.

Bergen, 21. March 2019



PETTER AASEN
Chair of the Board



ELIN HAUGSGJERD ALLERN
Board member

EVA STENSLAND
Board member



TORSTEIN ARNE BYE
Board member



KJELL GUNNAR SALVANES
Board member



OVE ANDERSEN
Board member



GRY-HEGE HENRIKSEN
Board member



VIGDIS NAMTVEDT KVALHEIM
Director

ANNUAL ACCOUNTS

<i>Amounts in NOK</i>	NOTE	2018	2017
OPERATING INCOME AND EXPENSES			
Operating income	7	72 969 024	72 386 933
Total, operating income		72 969 024	72 386 933
Salaries and social cost	1, 8	60 433 122	58 567 637
Deprecation tangible fixed assets	2	457 143	342 941
Other operating expenses	1	12 333 411	11 158 650
Total, operating expenses		73 223 676	70 069 228
Operating profit/loss		-254 652	2 317 706
FINANCIAL ITEMS			
Interest income		417 618	363 352
Other financial income		205 956	1 034 581
Other financial expenses		166 000	71 481
Net financial items		457 574	1 326 452
Net income before taxes		202 922	3 644 157
Net profit for the year		202 922	3 644 157
ALLOCATION OF PROFIT/LOSS			
Allocated to other equity		202 922	3 644 157
Total, allocation of profit/loss	3	202 922	3 644 157

BALANCE SHEET DECEMBER 31

<i>Amounts in NOK</i>	NOTE	2018	2017
ASSETS			
FIXED ASSETS			
<i>Tangible fixed assets</i>			
Fixtures and fittings	2	1 092 853	1 265 280
Total, tangible and fixed assets		1 092 853	1 265 280
<i>Financial fixed assets</i>			
Payment in advance	6, 9	106 067	176 775
Total, financial fixed assets		106 067	176 775
Total, fixed assets		1 198 920	1 442 055
CURRENT ASSETS			
<i>Debtors</i>			
Trade debtors		3 559 828	6 653 596
Other debtors	6	634 789	545 889
Total, debtors		4 194 617	7 199 484
Bank deposits, cash in hand etc.	4	85 139 430	80 708 608
Bank deposits, cash in hand etc.		85 139 430	80 708 608
Total, current assets		89 334 047	87 908 092
Total assets		90 532 967	89 350 148

BALANCE SHEET DECEMBER 31

<i>Amounts in NOK</i>	NOTE	2018	2017
EQUITY AND LIABILITIES			
EQUITY			
<i>Paid in equity</i>			
Share capital	3	5 000 000	5 000 000
Reserve for valuation	3	2 378 127	2 378 127
Total, paid in equity		7 378 127	7 378 127
<i>Retained earnings</i>			
Other equity	3	32 225 863	32 022 941
Total, retained earnings		32 225 863	32 022 941
Total equity	3	39 603 990	39 401 068
LIABILITIES			
<i>Accounting allocations</i>			
Provisions for pensions	8	18 425 675	17 520 948
Total, accounting allocations		18 425 675	17 520 948
<i>Current liabilities</i>			
Trade creditors		2 028 177	753 265
Public duties payable		4 334 367	3 582 905
Other short-term liabilities	5	26 140 757	28 091 962
Total, current liabilities		32 503 301	32 428 131
Total, liabilities		50 928 976	49 949 079
Total, equity and liabilities		90 532 967	89 350 148

NOTES TO THE FINANCIAL STATEMENT 2018

ACCOUNTING PRINCIPLES

This financial statements have been set up in accordance with the Accounting Act and good accounting practice. The accounting principles employed are described in the following paragraphs.

A) OPERATING INCOME AND COSTS

Income consists for the most part of grants and income from projects. Our services are entered as income as they are delivered. Payments received for activities that have not been performed by the end of the year are therefore entered on the Balance Sheet as Prepaid income and are classified as Other short-term liabilities.

Costs are entered according to the matching principle, i.e. they are entered in the same period as the earnings with which they are associated.

B) CURRENT ASSETS/SHORT-TERM DEBT

Current assets and short-term debt comprise items that are due for payment within one year of Balance Day, plus items related to the flow of goods. Current assets are valued at the lower of historical cost and estimated real value.

C) FIXED ASSETS/LONG-TERM LIABILITIES

Fixed assets are items intended for long-term ownership and use, and their value is entered at their historical cost. Fixed assets with a limited economic lifetime should be written down in accordance with a sensible depreciation plan. Fixed assets should be written down to their real value in the event of a loss of value that is not expected to be merely transient. Such depreciation should be reversed if and to the extent that the conditions leading to depreciation no longer exist.

Long-term liabilities are entered at their nominal value when the liability was incurred.

D) FOREIGN CURRENCY

Financial items in foreign currencies are entered at the rate of exchange in effect at the end of the financial year.

E) TAX

As the company is a not-for-profit enterprise, it is not liable to pay tax, in accordance with paragraph 2-32 of the Tax Act.

F) PENSIONS

The company is required to operate an occupational pension scheme in compliance with the Act on Mandatory Occupational Pension Plans. The company's scheme meets the requirements of the Act, and employees are enrolled in the Norwegian Public Service Pension Fund. The scheme is a performance-related plan. All liabilities are assessed in the light of the total pension funds in the pension scheme, and their estimated value is corrected every year in accordance with actuarial estimates. The periodised employment tax is classified as a part of net pension liabilities. The employment tax, calculated as the net annual cost of pensions, is entered as a cost together with the cost of the pensions themselves.

G) CASH-FLOW ANALYSIS

The cash-flow analysis is drawn up according to the indirect method. Cash and cash equivalents comprise cash, bank deposits, and other liquid short-term deposits.

H) IMPORTANT RENTAL CONTRACTS

The company's rental contracts are regarded as operational rental agreements, and rental costs are treated as current operating costs.

NOTE 1 PAYROLL EXPENSES, NUMBER OF EMPLOYEES, FEES, LOANS TO EMPLOYEES, ETC.**Payroll expenses**

<i>Amounts in NOK</i>	2018	2017
Salaries	43 105 664	41 747 917
Accrued holiday allowances	5 619 304	5 342 961
Social security tax	6 912 708	6 675 162
Pension costs, incl. negotiated pensions	4 110 101	4 361 449
Other benefits	685 344	440 148
Total	60 433 122	58 567 637

Average number of full time equivalent positions 92 90

remuneration to managerial staff	SALARY	PENSION	OTHER BEBEFITS
Director up to 15.08.18	1 375 613	20 989	4 392
Director from 15.08.18	1 005 308	19 266	4 392
Board	412 735		

Neither the director nor the Board have a right to a bonus, percentage of surplus or options, nor to special payments in the event of termination of employment or elected position.

Obligatory occupational pension (OTP)

The company is obliged to have a service pension scheme pursuant to the Act on Mandatory Occupational Pensions.

The company's pension scheme meets the requirements of this Act.

Auditor

Legally required audit	96 500
Other services	10 150

Sum of audit fees 106 650

NOTE 2 LONG-TERM OPERATING ASSETS

<i>Amounts in NOK</i>	FIXTURES	IT-EQUIPMENT	SUM
Historical cost 01.01.	1 898 700	4 138 409	6 037 109
Additional acquisitions	0	284 716	284 716
Acquisition cost per 31.12.	1 898 700	4 423 125	6 321 825
Accumulated depreciation per 31.12.	-1 611 370	-3 617 602	-5 228 972
Book value per 31.12.	287 330	805 523	1 092 853
Depreciation for the year	80 065	377 078	457 143
Economic lifetime	10 Years	3 Years	
Depreciation schedule	Linear	Linear	

NOTE 3 EQUITY CAPITAL

<i>Amounts in NOK</i>	SHARE CAPITAL	SHARE PREMIUM FUND	OTHER EQUITY CAPITAL	SUM
Equity capital per 01.01.	5 000 000	2 378 127	32 022 941	39 401 068
Profit/loss for the year			202 922	202 922
Equity capital per 31.12	5 000 000	2 378 127	32 225 863	39 603 990

The share capital consists of 5,000 shares, each with a face value of NOK 1,000.
The Ministry of Education and Research owns 100% of the shares.

NOTE 4 BONDED DEPOSITS

<i>Amounts in NOK</i>	2018	2017
Bonded deposits	2 769 448	2 768 064

NOTE 5 OTHER CURRENT LIABILITIES

<i>Amounts in NOK</i>	2018	2017
Unpaid holiday pay	5 074 773	5 342 961
Periodised project payments	20 891 619	22 270 172
Other current liabilities	174 365	478 829
Sum	26 140 757	28 091 962

NOTE 6 PAYMENTS IN ADVANCE

NSD has paid rent in advance as a means of financing the refurbishment of the premises that the company rents. The advance is entered in the profit and loss accounts for the duration of the lease, which is 15 years.

<i>Amounts in NOK</i>	2018	2017
Advance paid in connection with refurbishment	9 013 609	9 013 609
Unused refurbishment funds returned to NSD	-256 677	-256 677
Grants received from Research Council of Norway	-7 500 000	-7 500 000
Net	1 256 932	1 256 932
Share of rent for previous years	-1 080 1567	-938 738
Share of rent for this year	-70 709	-70 709
Advance payments per 31.12.	106 067	176 776
Other advance payments of operating costs	634 789	545 889
Total advance payments	740 856	722 665

NOTE 7 BREAKDOWN OF INCOME

<i>Amounts in NOK</i>	2018	2017
Funding from The Research Council of Norway	15 513 926	17 758 390
Funding from government ministries	20 975 000	17 210 000
Other public- and private-sector grants	23 233 420	21 574 343
Project funding from the EU and other international organisations	7 659 162	12 371 638
Income from sales and contracts	5 587 516	3 472 562
Sum	72 969 024	72 386 933

NOTE 8 PENSIONS

<i>Amounts in NOK</i>	2018	2017
Earned pensions for the year	4 535 328	4 191 173
Effects of year's changes in pension plans	0	0
Interest paid on pension liabilities	1 775 675	1 819 839
Expected return on pension funds	-2 114 378	-1 787 021
Administration costs	169 809	166 274
Net pension costs before employment tax	4 366 434	4 390 265
Employment tax on pension costs	615 667	619 027
Pension expense before unrecognized adjustments	4 982 101	5 009 292
Actuarial loss	243 960	350 260
Recognised longevity adjustment 1943-1953 cohorts	0	0
Recognised increase in pensions to retirement pensions	0	0
Cost of pensions, entered in profit and loss account	5 226 061	5 359 552

<i>Amounts in NOK</i>	2018	2017
Pension liabilities per 31.12.	81 234 570	74 362 731
Pension assets per 31.12.	-52 442 476	-50 137 681
Employment tax on net pension liabilities	4 059 685	3 415 732
Net pension liabilities including employment tax	32 851 779	27 640 782
Actuarial profit not entered in profit and loss account	-12 643 386	-8 869 268
Estimated deviation from employment tax	-1 782 718	-1 250 566
Pension liabilities, including employment tax, entered in balance sheet	18 425 675	17 520 948

<i>The following conditions were used as a basis for the above calculations:</i>	2018	2017
Discount rate	2,60 %	2,40 %
Return on pension funds	4,30 %	4,10 %
Salary growth	2,75 %	2,50 %
Annual anticipated adjustment of old-age pensions under payment	1,75 %	1,50 %
Annual anticipated adjustment of G-rate	2,50 %	2,25 %
Employment tax	14,10 %	14,10 %
Expected remaining time in employment	12	11

NOTE 9 SPECIFICATIONS OF RECEIVABLES AND LIABILITIES

<i>Amounts in NOK</i>	2018	2017
Receivables that are due later than 12 months ahead:	35 358	106 067
Liabilities that fall due more than five years	0	0
Sum	35 358	106 067

Bergen, 21. March 2019

NSD Board of Directors, Norwegian Centre for Research Data



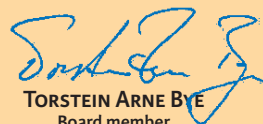
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